



JC10 Rec'd PCT/NO 09 MAY 2005

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. : 10/524,157  
Filed : February 8, 2005  
Applicant : Thomas Schulz, et al.  
Title : Compositions and Methods for Neural Differentiation of Embryonic Stem Cells

TC/AU :

Docket No. : 18465-0036  
Customer No. : 29052

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The citation of information on the attached two Form of PTO-1449, "List of Art Cited by Applicants" is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98.

Pursuant to the Office's waiver of the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of cited U.S. patents and published U.S. patent applications, no copy of any cited U.S. patent or U.S. patent application publication is being provided herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 4, 2005

  
Elizabeth Cary Miller - Reg. No. 54,708

U.S.S.N. 10/524,157  
Filed: February 8, 2005  
INFORMATION DISCLOSURE STATEMENT

The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right the applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise. No fee is believed to be required for consideration of this Information Disclosure Statement, however, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account No. 19-5020.

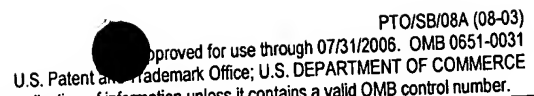
Respectfully submitted,

By: Elizabeth Cary Miller  
Elizabeth Cary Miller  
Reg. No. 54,708

**Date: May 4, 2005**

SUTHERLAND ASBILL & BRENNAN LLP  
999 Peachtree Street, N.E.  
Atlanta, Georgia 30309-3996  
Tel. No. (404) 853-8000  
Fax No. (404) 853-8806

Attorney Docket No.: 18465-0036



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet

1

of

2

## U. S. PATENT DOCUMENTS

**FOREIGN PATENT DOCUMENTS**

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>2</sup> (if known)				
		WO 97/32033	09-04-1997	Vanderbilt University		
		WO 98/43679	10-08-1998	The Johns Hopkins University School of Medicine		
		WO 99/53021	10-21-1999	BresaGen Limited		
		DE 197 56 864 C1	12-19-1997	Vossius et al.		
Examiner Signature				Date Considered		

\*Citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this document if not in conformance. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

**\*EXAMINER:** Initial if references considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.<sup>1</sup> Applicant's unique citation designation number (optional).<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.  
**\*Enter Office that issued the document,** by the two-letter code (WIPO Standard ST.3).<sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.<sup>5</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.  
*If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## Complete if Known

Substitute for form 1449/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Application Number	10/524,157
Filing Date	August 8, 2002
First Named Inventor	Thomas Schulz, et al.
Art Unit	
Examiner Name	
Attorney Docket Number	18465-0036

Sheet

2

of

2

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BAIN, et al., (1995), "Embryonic Stem Cells Express Neuronal Properties <i>in vitro</i> ," <i>Dev. Biology</i> 168:342-357.	
		BRUSTLE, et al., (1997), "In Vitro-Generated Neural Precursors Participate in Mammalian Brain Development", <i>Proc. Natl. Acad. Sci. USA</i> 94:14809-14814.	
		CARPENTER, et al., (2001), "Enrichment of Neurons and Neural Precursors from Human Embryonic Stem Cells", <i>Exper. Neuro.</i> 172:383-397.	
		FRAICHARD, et al., (1995), "In Vitro Differentiation of Embryonic Stem Cells into Glial Cells and Functional Neurons", <i>J. Cell Sci.</i> 108:3181-3188.	
		GOLDMAN, National Institute of Health Symposium, NIH Research: Recent Progress and Future Promise of Human Embryonic Stem Cells, June 12, 2003, abstract available at <a href="http://stemcells.nih.gov/news/symposiumspeakers.asp#7">stemcells.nih.gov/news/symposiumspeakers.asp#7</a> as of July 30, 2003.	
		HENDERSON, et al., (2002), "Preimplantation Human Embryos and Embryonic Stem Cells Show Comparable Expression of Stage-Specific Embryonic Antigens", <i>Stem Cells</i> 20:329-337.	
		KAWASAKI, et al., (2000), "Induction of Midbrain Dopaminergic Neurons from ES Cells by Stromal Cell-Derived Inducing Activity", <i>Neuron</i> 28:31-40.	
		KAWASAKI, et al., (2002), "Generation of Dopaminergic Neurons and Pigmented Epithelia from Primate ES Cells by Stromal Cell-Derived Inducing Activity", <i>Proc. Natl. Acad. Sci. USA</i> 99(3):1580-1585.	
		KIM, et al., (2002), "Dopamine Neurons Derived from Embryonic Stem Cells Function in an Animal Model of Parkinson's Disease", <i>Nature</i> 418:50-56.	
		KUO, et al., (2003), "Differentiation of Monkey Embryonic Stem Cells into Neural Lineages", <i>Biol. Reproduction</i> 68:1727-1735.	
		LI, et al., (1998), "Generation of Purified Neural Precursors from Embryonic Stem Cells by Lineage Selection", <i>Current Biol.</i> 8:971-974.	
		OKABE, (1996), "Development of Neuronal Precursor Cells and Functional Postmitotic Neurons from Embryonic Stem Cells <i>in Vitro</i> ", <i>Mech. Dev. Biol.</i> 59:89-102.	
		O'SHEA, (2002), "Neural Differentiation of Embryonic Stem Cells", <i>Meth. In Mol. Biol.</i> 198:3-14.	
		RENONCOURT, et al., (1998), "Neurons Derived <i>in Vitro</i> from ES Cells Express Homeoproteins Characteristic of Motoneurons and Interneurons", <i>Mech. Dev.</i> 79:185-197.	
		REUBINOFF, et al., (2001), "Neural Progenitors from Human Embryonic Stem Cells", <i>Nature Biotech</i> 19(12):1134-1140.	
		SASAI, et al., (2002), "Generation of Dopaminergic Neurons from Embryonic Stem Cells", <i>J. Neurol</i> 249(2):1141-1144.	
		SCHULDINER, et al, (2001), "Induced Neuronal Differentiation of Human Embryonic Stem Cells", <i>Brian Res.</i> 913:201-205.	
		STRUBING, et al., (1995), "Differentiation of Pluripotent Embryonic Stem Cells into the Neuronal Lineage <i>in Vitro</i> Gives Rise to Mature Inhibitory and Excitatory Neurons", <i>Mech. Dev.</i> 53:275-287.	
		TROPEPE, et al., (2001), "Direct Neural Fate Specification from Embryonic Stem Cells: A Primitive Mammalian Neural Stem Cell Stage Acquired through a Default Mechanism", <i>Neuron</i> , 30:65-78.	
		YING, et al. (2003), "Conversion of Embryonic Stem Cells into Neuroectodermal Precursors in Adherent Monoculture", <i>Nat. Biotech.</i> 1-4.	
		ZHANG, et al., (2001), "In Vitro Differentiation of Transplantable Neural Precursors from Human Embryonic Stem Cells", <i>Nature Biotech.</i> 19(12):1129-1133.	
Examiner Signature		Date Considered	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.